

REMARKS

In a sincere attempt to further more clearly distinguish the claimed invention from the previously applied prior art, Claim 1 has been amended to state that the counter ions for said anionic colloidal silica particles consist essentially of sodium, potassium, or ammonium ions (as described taught at page 5, lines 24-28), and to incorporate the combined features of dependent claims 7, 8, 11, and 33, which claims have accordingly been cancelled. Such requirement for specified counter ions differentiates from the prior art teachings employing cationic polymers employed as fine particle dispersants. As Nakano et al clearly teaches the use of a cationic dispersant for the fine particles employed therein, it is respectfully urged that the applied prior art does not teach use of anionic colloidal silica particles wherein the counter ion for such particles consists essentially of sodium, potassium, or ammonium ions in the coating solution for an accepting layer as taught therein. Further, the data presented in Table VI of the specification establishes that fluorsurfactants of the claimed formulas (e.g., fluorosurfactants as employed in Elements 1-4) provide generally better combined gloss and drytime performance compared to various other types of fluorosurfactants when employed in the context of the claimed invention, while Tables IX and X of the specification establish the criticality of the claimed percent hydrolysis and viscosity requirements when employing polyvinylalcohol as hydrophilic polymer binder in the context of the claimed invention.

Additionally, with respect to the added requirement of the surface pH of the image-receiving layer moistened with water being between 8 and 10, Applicant again asserts that arguments that it would have been obvious to one of ordinary skill in the art to adjust the surface pH of the coloring agent accepting layer of Tsuchiya et al to a pH of 8 in order to avoid yellowing discoloration as taught by Nakano et al. are not well-founded, as while Nakano et al. may cite the broader pH range of "from 3 to 8", in actuality such teaching is that the pH adjustment is done by addition of acid, and further that a surface pH of from 5 to 7.5 is preferred for such reason (col. 16, line 48). As the components of the coating solutions of Tsuchiya et al are already clearly acidic (as evidenced by col. 11, lines 1-22, where the formation of Dispersion B1 is described comprising acidic

dispersion A1 (col. 11, lines 2-3), acidic solution C1 (Col. 11, line 9), boric acid and borox solution D (col. 11, lines 13-16), and deionized water (col. 11, line 22), and no basic solutions are described, the resulting coating solution will also be acidic, and the resulting surface pH will likewise be acidic. Accordingly, there would clearly be no need for further acid addition to adjust the surface pH as may be suggested by Nakano et al., and certainly no suggestion based on the teachings of Nakano et al to add base to the coatings of Tsuchiya et al to adjust the pH to between 8 and 10 to advantageously provide image recording elements in accordance with the present invention with the best performance in terms of gloss, dry time, and image quality as explained in the paragraph bridging pages 15-16 of the instant specification. Accordingly, Tsuchiya et al in view of Nakano et al does not teach or suggest the present claimed invention.

The Examiner has stated that despite the express preference in Nakano et al for use of fine particle having an average primary particle diameter of 50 nm or less, that one of ordinary skill in the art would have read the disclosure of Nakano et al as suggesting a range of particle size extending beyond 50 nm, and that it would have been obvious to optimize particle size and particle size distribution (apparently, in the Examiner's view, to result in the present claimed invention requirement of particles having a median diameter of between 80 and 200 nm). The Examiner further stated that criticality of the claimed size range cannot be determined because Appellants have failed to vary only one parameter while holding all others constant. As has been explained by Applicants, however, Table VII on page 30 in the specification of the present application demonstrates that the use of anionic colloidal particles having the claimed particle size and narrow size distribution provides the advantages of higher gloss, faster dry time, good image quality, and improved coating quality, with the Comparative examples provided in the present specification clearly demonstrating the advantage of the claimed invention relative to the use of smaller particles when employing anionic colloidal particle dispersions, even when the relatively smaller particles also have relatively narrow size distributions(see, e.g., Comparative Elements 11 and 12), while Nakano et al's preference would suggest that smaller particles should be employed to optimize gloss and dry time. This is clear evidence of

the criticality of the present invention, as opposed to the cationic dispersant treated fine particles employed in Nakano et al. The criticality of the claimed particle size parameter in the present claimed invention relative to the teachings of Nakano et al is thus clearly demonstrated, and the Examiner's comments that such criticality cannot be evaluated is clearly without merit.

The Examiner's prior comment that the particle size range of Table VII is not a value recited by the claims and that comparative data should have been expressed in the precise terms of the claim parameters to which they pertain is also without merit, as the alleged "missing" comparative data (whether 80% of the particles have a diameter of within 35% smaller or larger than the median diameter) is clearly provided in the written descriptions of each of the Elements 14-20 and Comparatives 8-12 at pages 26-30. The Examiner's contention that a direct comparison cannot be made between the preference in Nakano et al of an "average" particle diameter of 50 nm or less to the claimed mean diameter of between 80 and 200 nm is also clearly without merit, as the Examiner has not provided any corresponding explanation as to why such preferred "average" of Nakano et al would make "obvious" the claimed "mean" particle size, and further as Appellant has in any event presented comparison examples which actually do compare invention and comparison examples based on mean particle diameter.

Respectfully submitted,



Attorney for Applicant(s)
Registration No. 33,564

Andrew J. Anderson
Rochester, NY 14650
Telephone: 585-722-9662
Facsimile: 585-477-1148